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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,255	03/23/2004	Toshiyuki Tanaka	3693-53	1912
23117	7590	07/28/2005	EXAMINER	
NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203			NGUYEN, THANH NHAN P	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

8m

<b>Office Action Summary</b>	<b>Application No.</b> 10/806,255	<b>Applicant(s)</b> TANAKA ET AL.	
	<b>Examiner</b> (Nancy) Thanh-Nhan P. Nguyen	<b>Art Unit</b> 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 July 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.  
     4a) Of the above claim(s) 5-8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/23/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

1. This communication is responsive to election/restriction requirement dated 7/13/2005.

Even though applicant elects species B (fig. 9, claims 1-4) without traverse, applicant still requests examiner to insure that the restricted group of claims is patentably distinct before proceeding to make the requirement final.

Back to the election/restriction requirement dated 6/14/2005, examiner already pointed out claims 1-8 contain embodiments directed to following patentably distinct species of the claims invention:

- a. One embodiment drawn to a liquid crystal display device comprising a light blocking section for shading a defective orientation domain formed in the liquid crystal layer by an insufficiently rubbed portion around the protruding portion, wherein the light blocking section is formed in a downstream vicinity, and upstream vicinity of the protruding portion with respect to the rubbing direction, [fig. 4].
- b. Another embodiment drawn to a liquid crystal display device comprising a portion of the light blocking section formed simultaneously with, and using the same material as the storage capacitor electrode section; and the remaining portion of the light blocking section formed simultaneously with, and using the same material as the line, wherein the line is for applying an electric potential to the transmissive and reflective electrode of the pixel, [fig. 9].

Therefore, the requirement is deemed proper and is considered to be final.

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2. Claims 5-8 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim.

### **Claim Objections**

Claim 1 is objected to because of the following informalities:

In claim 1, the term "insufficiently-rubbed" is a relative term, and is not clear since there is no standard measurement for sufficiently-rubbed or insufficiently-rubbed introduced or defined through out the invention. Therefore, for the examination purpose, claim 1 will be interpreted as "the liquid crystal display device includes a light blocking section for shading a defective orientation domain formed in the liquid crystal layer around the protruding portion."

Appropriate correction is required.

### **Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa et al U.S. Patent Application Publication No. 2003/0076464 in view of Kim U.S. Patent Application Publication No. 2004/0263702.**

Referring to claims 1 and 3, Ozawa et al discloses a liquid crystal display device, comprising: a pixel electrode substrate (10) including a transmissive pixel electrode section (32) and a reflective pixel electrode section (31) corresponding to one pixel (3); a counter electrode substrate (20) including a counter electrode section (21) and arranged so as to oppose the pixel electrode substrate; and a liquid crystal layer (50) arranged between the pixel electrode substrate and the counter electrode substrate, wherein: the pixel includes a transmissive region corresponding to the transmissive pixel electrode section and a reflective region corresponding to the reflective pixel electrode section; at least one of the pixel electrode substrate and the counter electrode substrate includes a protruding portion (6) provided so that a thickness of the liquid crystal layer in the reflective region is smaller than that in the transmissive region; one surface of the at least one of the pixel electrode substrate and the counter electrode substrate that is closer to the liquid crystal layer is subjected to a rubbing treatment in a predetermined direction (alignment film 12); the liquid crystal display device includes a light-blocking section (9) for shading a defective orientation domain formed in the liquid crystal layer around the protruding portion, [figs. 1A-1B; par. 0068]; the pixel electrode substrate includes a line (151 or 152) for applying an electric potential to the transmissive pixel electrode section and the reflective pixel electrode section of the pixel, [fig. 9].

Ozawa et al lacks disclosure of the light-blocking section is formed simultaneously with, and using the same material as, one or more other elements of the

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liquid crystal display device, and more specific with using the same material as the line. First, in this limitation, "the light-blocking section is formed simultaneously" makes the claim become product-by-process claim, [MPEP 2113], and for this specific claim, it is not given any weight to its process. It is examined as a product itself. Further, it was well known in the liquid crystal display device to have light blocking section uses the same materials as one or more other elements such as the gate line for the benefit of reducing cost and/or reducing the steps in manufacturing as evidenced by Kim, [figs. 4-8; par. 0036]. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have light blocking section uses the same materials as one or more other elements such as the gate line for the benefit of reducing cost and/or reducing the steps in manufacturing the liquid crystal display device.

**Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa et al U.S. in view of Kim and further in view of Kubo et al U.S. Patent No. 6,195,140.**

Referring to claim 2, Ozawa et al lacks disclosure of the pixel electrode substrate includes a storage capacitor electrode section that forms a storage capacitor together with the reflective pixel electrode section of the pixel.

It was well known in the liquid crystal display to have the pixel electrode substrate includes a storage capacitor electrode section that forms a storage capacitor together with the reflective pixel electrode section of the pixel for the benefit of having

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extra storage capacitance in the display device as evidenced by Kubo et al, [figs. 1-2]. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have the pixel electrode substrate includes a storage capacitor electrode section that forms a storage capacitor together with the reflective pixel electrode section of the pixel for the benefit of having extra storage capacitance in the display device.

Ozawa et al further lacks disclosure of the light-blocking section is formed simultaneously with, and using the same material as, the storage capacitor electrode section.

Similarly, first, in this limitation, "the light-blocking section is formed simultaneously" makes the claim become product-by-process claim, [MPEP 2113], and for this specific claim, it is not given any weight to its process. It is examined as a product itself. Further, it was well known in the liquid crystal display device to have the light-blocking section is using the same material as, the storage capacitor electrode section for the benefit of reducing cost and/or reducing the steps in manufacturing as evidenced by Kim, [figs. 4-8; par. 0036]. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have the light-blocking section is using the same material as, the storage capacitor electrode section for the benefit of reducing cost and/or reducing the steps in manufacturing in the liquid crystal display device.

Referring to claim 4, Ozawa et al discloses a line(151 or 152) for applying an electric potential to the transmissive pixel electrode section and the reflective pixel electrode section of the pixel, [fig. 9].

Ozawa et al lacks disclosure of the pixel electrode substrate includes a storage capacitor electrode section that forms a storage capacitor together with the reflective pixel electrode section of the pixel.

It was well known in the liquid crystal display to have the pixel electrode substrate includes a storage capacitor electrode section that forms a storage capacitor together with the reflective pixel electrode section of the pixel for the benefit of having extra storage capacitance in the display device as evidenced by Kubo et al, [figs. 1-2]. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have the pixel electrode substrate includes a storage capacitor electrode section that forms a storage capacitor together with the reflective pixel electrode section of the pixel for the benefit of having extra storage capacitance in the display device.

Ozawa et al further lacks disclosure of a portion of the light-blocking section is formed simultaneously with, and using the same material as, the storage capacitor electrode section; and the remaining portion of the light-blocking section is formed simultaneously with, and using the same material as, the line.

Similarly, first, in this limitation, "the light-blocking section is formed simultaneously" makes the claim become product-by-process claim, [MPEP 2113], and for this specific claim, it is not given any weight to its process. It is examined as a



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product itself. Further, it was well known in the liquid crystal display device to have a portion of the light-blocking section is using the same material as, the storage capacitor electrode section; and the remaining portion of the light-blocking section is using the same material as, the line for the benefit of reducing cost and/or reducing the steps in manufacturing as evidenced by Kim, [figs. 4-8; par. 0036]. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have a portion of the light-blocking section is using the same material as, the storage capacitor electrode section; and the remaining portion of the light-blocking section is using the same material as, the line for the benefit of reducing cost and/or reducing the steps in manufacturing in the liquid crystal display device.

### **Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Ozawa et al U.S. Patent Application Publication No. 2003/0076464.

Kim U.S. Patent Application Publication No. 2004/0263702.

Kim and further in view of Kubo et al U.S. Patent No. 6,195,140.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to (Nancy) Thanh-Nhan P. Nguyen whose telephone number is 571-272-1673. The examiner can normally be reached on M-F/9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

(Nancy) Thanh-Nhan P Nguyen  
Examiner

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-- July 22, 2005 --

TN

  
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